



PLATINUM
PRO PLUG-IN
Hyundai Genesis
BK Theta
(HT055045)
QUICK START GUIDE



LIMITED WARRANTY

Lockin Pty Ltd trading as Haltech warrants the Haltech™ Programmable Fuel Injection System to be free from defects in material or workmanship for a period of **12 months** from the date of purchase.

Proof of purchase, in the form of a bill of sale or receipted invoice, which indicates that the product is within the warranty period, must be presented to obtain warranty service. Lockin Pty Ltd trading as Haltech suggests that the purchaser retain the dealer's dated bill of sale as evidence of the date of retail purchase.

If the Haltech™ Programmable Fuel Injection System is found to be defective as mentioned above, it will be replaced or repaired if returned prepaid along with proof of purchase. This shall constitute the sole liability of Lockin Pty Ltd trading as Haltech.

To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations, either expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Lockin Pty Ltd trading as Haltech, be liable for special or consequential damages.

DISCLAIMER

Haltech will not be held responsible for any damage caused by the incorrect installation or tuning of this product. It is the installers responsibility to ensure the wiring connections and pinouts match that of the vehicle the unit is being installed into.

Haltech has taken all care to make sure the connections match the specified vehicles listed, but variations in wiring and connections on vehicles can occur and therefore this should be checked BEFORE the unit is installed.

Haltech highly recommends installation and tuning of this product is to be carried out by a professional, with an understanding on installing and tuning engine management systems.

Misuse of this product can destroy your engine.

WARNING

This ECU is designed and sold for Racing use only. Using this product for street / road use may be prohibited by law. Please check with your local vehicle authority before using this product.

GENERAL INSTALLATION WARNING

Avoid open sparks, flames or operation of electrical devices near flammable substances. Always disconnect the battery cables when doing electrical work on your vehicle.

Do not charge the battery with a 24 Volt truck charger or reverse the polarity of the battery or any charging unit. Do not charge the battery with the engine running as this could expose the ECU to an unregulated power supply that could destroy the ECU and other electrical equipment.

All fuel system components and wiring should be mounted away from heat sources, shielded if necessary and well ventilated. Disconnect the Haltech ECU from the electrical system whenever doing any arc welding on the vehicle by unplugging the wiring harness connector from the ECU.

After completing the installation, make sure that there are no fuel leaks, and no wiring left un-insulated in case a spark or short-circuit occurs and causes a fire. Also make sure that you follow all proper workshop safety procedures. If you're working underneath a jacked-up car, always use safety stands!

PLATINUM Pro Plug-in Hyundai Genesis BK Theta Quick Start Guide

Congratulations on purchasing a Haltech Engine Management System.

This *fully programmable Plug and Play* product opens the door to virtually limitless performance modification and tuning of your vehicle. Programmable systems allow you to extract all the performance from your engine by delivering precisely the required amount of fuel and ignition timing that your engine requires for maximum output under all operating conditions.

This quick start guide will walk you through installation of the Platinum Pro ECU into a vehicle. This guide is accompanied by the full service manual located on the software CD provided with the ECU that you or your tuner will need to refer to before completing your installation and configuration. The Manual can also be downloaded from the Haltech website www.haltech.com

Supported Vehicles

The Platinum Pro Plug-in Hyundai Genesis BK Theta ECU supports the following:

Hyundai Genesis (USA Only) 2.0L turbo Theta engine
(Key start and Push button start, manual transmission only)

Platinum Pro Plugin Hyundai Genesis BK Theta Kit Includes

- Haltech Platinum Pro Plug-in ECU
- Mounting Bracket
- Brake Fluid Level Extension Harness
- M8 to M6 Grounding Lug Adaptor
- Rear Auxiliary Connector and pins
- USB Cable
- Software CD
- Quick Start Guide

Optional Accessories (Sold Separately)

- Rear Auxiliary Harness (HT040003)
- 3 Bar Map Sensor (HT010104)

Loaded Basemap

Your Platinum Pro Plug-in has been programmed with a basemap to suit a Hyundai Genesis running a Theta 2.0L standard engine with Key Start Option.

Please ensure you load, modify and check the corresponding basemap for your application and calibrate the Electronic Throttle within ECU Manager software **before** attempting to start the vehicle.

ECU Installation

To install your new Platinum Pro Plug-in to your Hyundai Genesis, please follow the procedures below.

1. Locate your factory ECU. This will be located in the engine bay, near the firewall on the drivers side. Remove the strut tower brace for easy access.



Figure 1 – ECU and strut tower bolts location

2. With the ignition turned off remove the ECU connector from the ECU by lifting the connector levers up and pulling the connectors out.
With the connectors disconnected, remove the factory ECU from the engine bay by loosening the 4 x 10mm bolts securing it to the mounting bracket.
Follow ECU Main Wiring Harness to where it enters the junction box mounted to the strut tower and remove the bolt securing the ground wires to the strut tower.



Figure 2 – Factory harness ground location

3. Cut the two zip ties that are holding the wiring harness to the plastic junction box and then undo the bolt holding the junction box to the vehicle.



Figure 3 – Factory Harness mounting points

4. Remove the wiring harness from the plastic junction box and set box aside (you will no longer require this component).
Remove the brake fluid level sensor wire and install the provided extension harness.



Figure 4 – Brake Fluid Level Sensor Connector

5. Remove the two firewall mounted nuts that secure the plastic cover over the top of the wiring harness firewall pass through grommet, once the nuts are removed from the plastic cover it can be removed to access the pass through grommet.
Removing the plastic cover can be difficult as there is a metal ring that sits inside the plastic cover and clamps the rubber grommet underneath in place.
The cover is easier to remove with the metal ring remaining seated on the firewall (ie don't let the ring come out with the cover, it may be beneficial to remove the brake booster vacuum hose for easier access).



Figure 5 – Factory Grommet Location

6. With the plastic cover removed you should be able to access the rubber grommet that the wiring harness passes through into the cabin, remove the metal ring, cut the grommet and route the wiring harness through into the passenger compartment.



Figure 6 – Factory Grommet

7. With the plastic cover removed you should be able to access the rubber grommet that the wiring harness passes through into the cabin, remove the metal ring, cut the grommet and route the wiring harness through into the passenger compartment.



Figure 7 – Factory Wiring Harness Re- Routed into Cabin

8. Mount ECU in appropriate location inside the passenger compartment using the supplied mounting bracket. Reinstall the ground wire that was previously mounted to the strut tower to a chassis ground lug using the M8 to M6 adaptor provided.



Figure 8 – Haltech ECU Mounted Under Dashboard of the Vehicle

9. Calibration of the Electronic Throttle

Before trying to start the vehicle the Electronic throttle **MUST** be calibrated. Calibration of the throttle is achieved by using the Haltech ECU Manager ETC Calibration wizard located in the Advanced Tab within the Main setup page. The process to Calibrate the Electronic Throttle is outlined below.

- Install ECU into vehicle as described previously
- With the ignition switch turned on, connect to the ECU via Haltech ECU Manager Software using the USB cable provided
- Navigate to the Main Setup page by pressing F4 or by using the Setup / Main Setup Tabs
- Go to the Advanced setup page via selecting the icon on the left of the main setup page
- Select Electronic Throttle Tab to display the Haltech Electronic Throttle Calibration wizard, we are now ready to calibrate the throttle. To begin the calibration process select the **Start >>** button
- The Haltech Calibration wizard will now guide you though the Electronic Throttle Calibration.

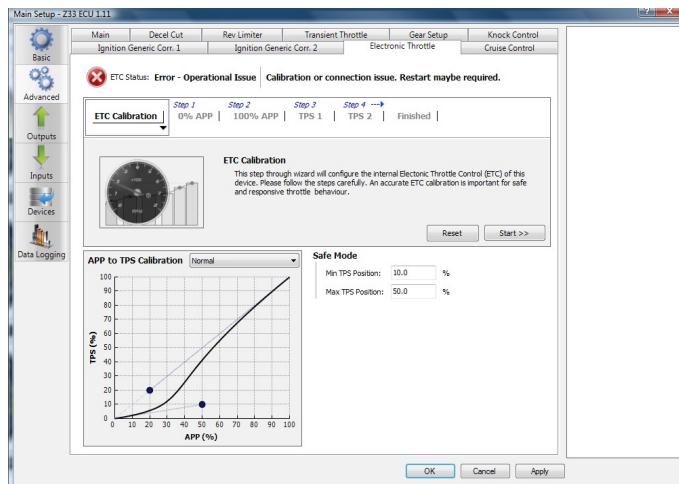


Figure 9- Main Setup Page showing Advanced Menu ETC Calibration Wizard

Calibration Steps

Step 1: 0% Accelerator Pedal Position (APP)

Ensure that the accelerator pedal is NOT depressed and click the calibrate button

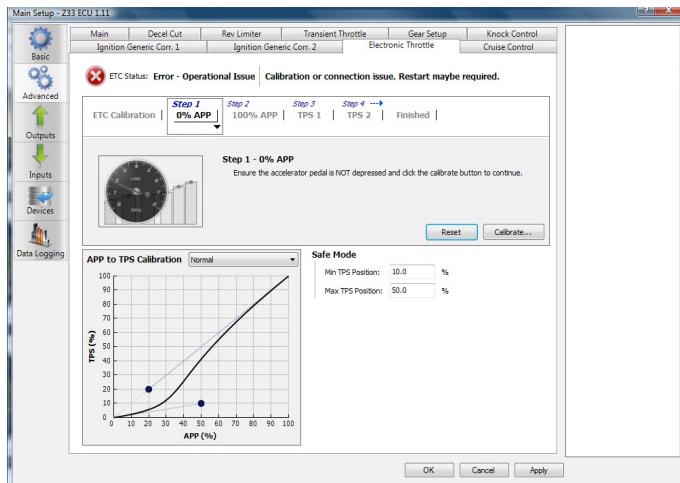


Figure 10 – 0% APP Successful calibration display

Step 2: 100% Accelerator Pedal Position (APP)

Fully press the accelerator pedal. Continue to hold the pedal in this position and click the calibrate button

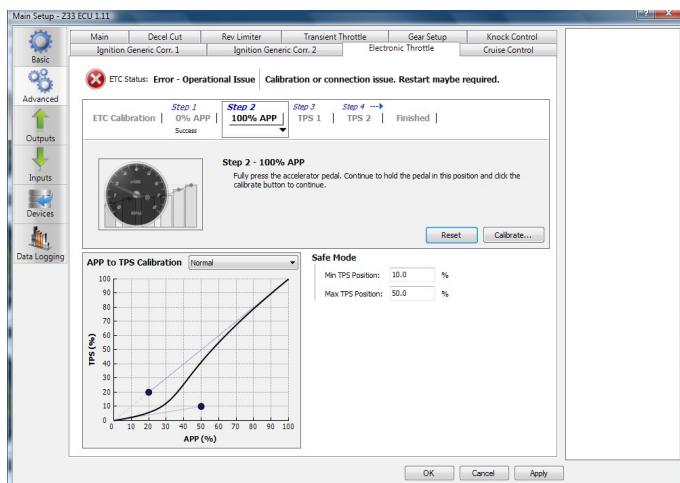


Figure 11 – 100% APP Successful Calibration display

Step 3: Throttle Position Sensor 1 (TPS 1)

Release the accelerator pedal to a non-pressed state. Ensure that all electronic throttles are connected and click 'calibrate' to continue

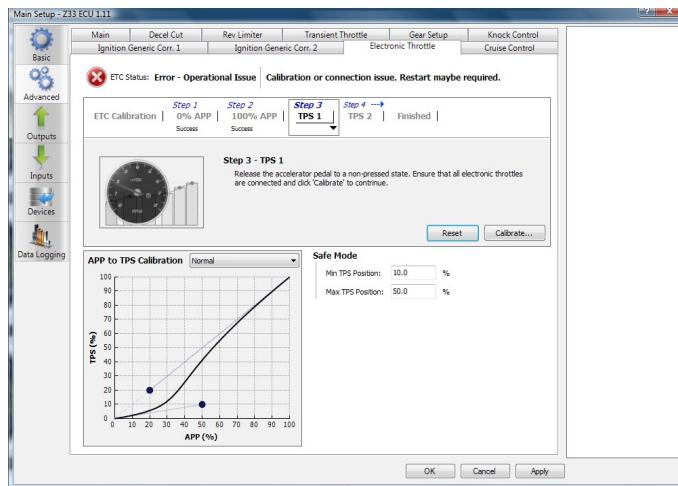


Figure 12 – TPS 1 Calibration Success

Step 4: Throttle Position Sensor 2 (TPS 2)

In Twin throttle applications the Electronic Throttle Calibration wizard will proceed to calibrate the TPS 2 automatically. This is not required with this application and will be skipped automatically by the wizard

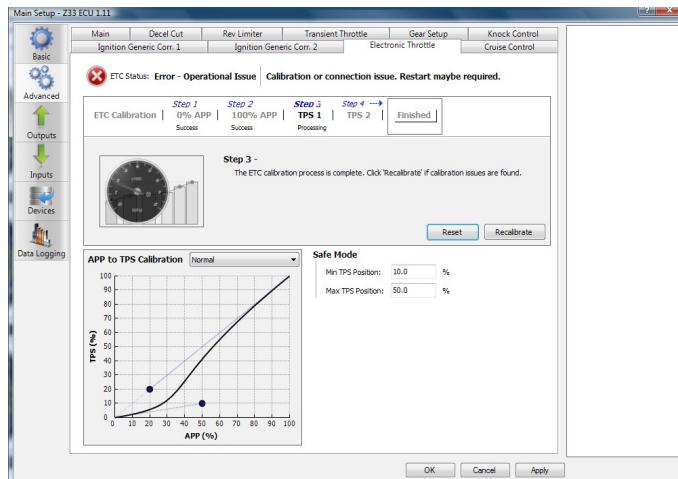


Figure 13 – TPS 2 Calibration Success

When successfully calibrated the ETC Status will change to "Online / Calibrated"
Once calibrated its now time to start your engine.

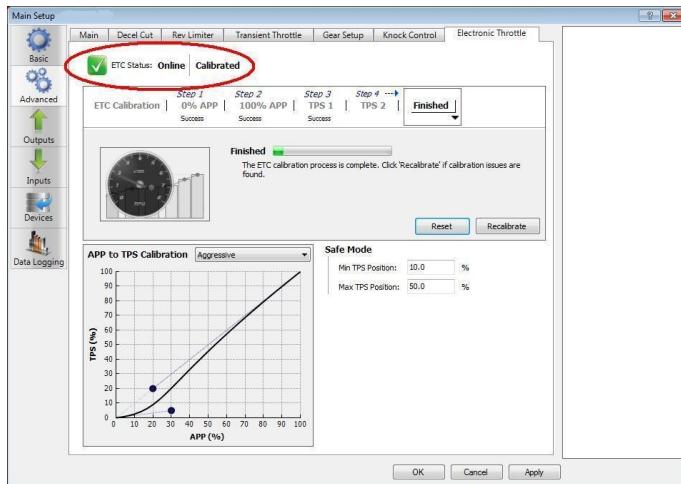


Figure 14 – Successful Calibration Indication

- With the engine started and running its time to tune. This is best achieved by your nearest engine tuner. See the listing of Haltech dealers on our website to find the one closest to you.

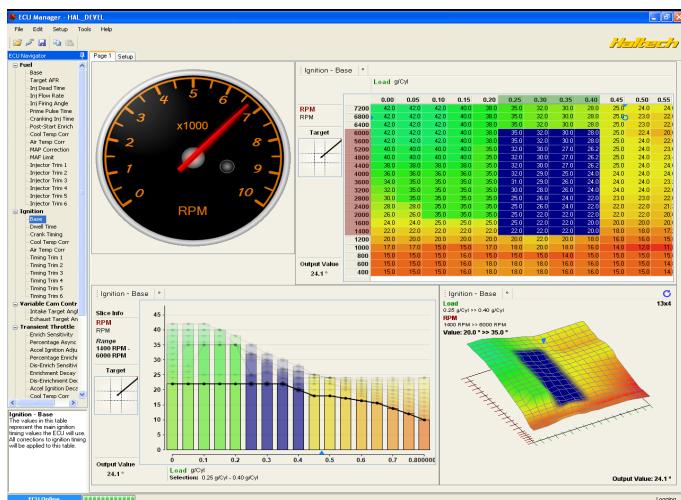


Figure 15 – ECU Manager tuning page

ECU Manager Software

ECU Manager software is used for setup, calibration and diagnostics and can be found on the CD supplied with this unit or downloaded from the Haltech website www.haltech.com

Minimum System Requirements

Operating System:	Windows 2000 SP4 / XP / Vista / Windows 7
Processor Speed:	1GHz
RAM:	256 MB
Video Card:	128MB graphics card with 3D acceleration
USB:	1.1
Hard Drive Space:	250Mb
Minimum Screen Resolution:	1024 x 768 pixels

Installing ECU Manager

Installing ECU Manager onto your PC is performed similar to any other Windows software package. Installation is outlined below to ensure correct installation:

- 1.**Insert the CD-ROM into your PC's CD-ROM drive. The CD should automatically launch into the Haltech Browser. If the CD does not run automatically double click on the "My Computer" icon on the desktop, double click on the Haltech icon (CD- ROM drive) to start the browser software.
- 2.**The Browser will display the disclaimer and you will need to agree to the terms stated before allowing to progress. Read the Disclaimer and click on AGREE if you agree.
- 3.**Now you will be able to access all the information contained on the CD
- 4.**To download the Platinum Software, click on the Platinum Series ECU Manager Link. You will be prompted to install the software. Click "Install" to install ECU Manager and the Data Log viewer.
- 5.** Follow the software prompts and install the software.

With your programming cable (USB) attached to your ECU and the other end connected to your laptop, power up the ECU by turning your key to IGN. Start the programming software on your PC and go online with the ECU.

ECU Manager / ECU Manuals

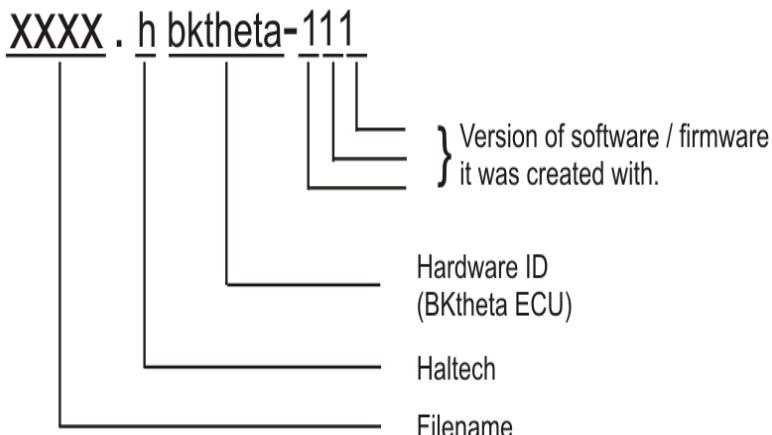
Detailed manuals can be found in the software by pressing your F1 key or by selecting the Help tab located at the top left of the screen

ECU Manager File Extensions

When ECU manager saves the map from the Haltech ECU, it saves the map with a Haltech specific file extension.

The File extension can be broken down as follows:

Example File : xxxx.hbktheta-111



Later map versions cannot be loaded into ECU's with earlier firmware versions.

ECU Manager will upgrade earlier map versions when loading into ECU's with later firmware versions.

ECU Manager upgrades maps between versions where equivalent settings are available. However, new settings not in the original map, will be substituted with values from the new version's default map.

Whenever ECU Manager converts your ECU map, you should always check your map settings to ensure that all the appropriate settings have been converted correctly.

Rear Auxiliary Connector

The Platinum Pro Plugin Series allows further expansion of your ECU by the Rear Auxiliary Connector.

The Rear Auxiliary connector allows you access to:

- 1 Additional Digital Pulsed Input (DPI)
- 2 Additional Digital Pulsed Outputs (DPO)
- 2 Additional Digital Switched Outputs (DSO)
- 4 Additional Analogue Voltage Inputs (AVI)
- 2 Additional +13.8V Sensor Power Outputs (limited to 500mA Per output pin)
- 2 Additional +5V Sensor Power Output (limited to 50mA Per output pin)
- Additional Sensor Power and Signal Grounds

These extra Inputs / Outputs can be used to:

- Fit additional sensors. (eg MAP, Temperature and Flex Fuel)
- Control additional devices via relays
- Control additional solenoids directly (eg Aftermarket Boost Control solenoid)

The Rear Auxiliary harness is available as an optional extra. (HT040003)



Pin #	Wire Colour	Connection
1	O	+5V (50mA Max)
2	Y	AVI1 (MAP)
3	O/B	AVI2
4	B/W	SIGNAL GROUND
5	V/B	DPO1
6	V/BR	DPO2
7	GY<SHD>	DPI1
8	R	+13.8V (500mA Max)
9	O	+5V (50mA Max)
10	GY	AVI 3
11	GY/B	AVI 4
12	B/W	SIGNAL GROUND
13	V/R	DSO1
14	V/O	DSO2
15	-	-
16	R	+13.8V (500mA Max)

<SHD> Denotes shielded cable

Figure 16 - Rear Auxiliary Harness Connector and Pin-out

Digital Pulsed Input (DPI)

Digital Pulsed Inputs are capable of accepting pulsed input information such as for a road speed sensor. These inputs measure the time periods between the pulses and can process this information to provide quantities such as road speed.

One additional input can be connected using the Optional Rear Auxiliary Harness (HT040003)

Digital Pulsed Outputs (DPO)

Digital Pulsed Outputs are capable of producing pulsed waveforms with varying duty and frequency. DPO's can be used to control various devices such as thermo-fans, shift lights, bypass air control valves, boost control solenoids etc.

When a Digital Pulsed output is activated by the ECU the output will switch to ground. Solenoid valves and shift lights etc can be run directly from the output, however high current devices such as thermo-fans and additional fuel pumps must be activated through a relay. This way the DPO is only switching a relay and not a high current draw device.

Two additional outputs can be connected using the Optional Rear Auxiliary Harness (HT040003)

Digital Pulsed Outputs are limited to 800mA Max current draw.

Digital Switched Outputs (DSO)

Digital Switched Outputs are capable of switching to ground
DSO's can be used to control relays in an on / off state only.

Two additional outputs can be connected using the Optional Rear Auxiliary Harness (HT040003)

Digital Switched Outputs are limited to 800mA Max current draw.

Analogue Voltage Inputs (AVI)

Analogue Voltage Inputs accept variable voltage inputs from 0V to 5V. These inputs can also accept switch inputs that change between two different voltage levels.
The On Voltage and Off Voltage define what the thresholds are between the On and Off states. The Voltage can be viewed as a channel in the software to determine the thresholds for a switched input.

Two additional sensors or switched inputs can be connected using the Optional Rear Auxiliary Harness (HT040003)

Wire connections

When using crimp connectors ensure that the correct crimping tool is used – if in doubt do a pull test on a crimp connector, the wire should break before the wire pulls out of the crimp. Terminal soldering can weaken a connection and should only be used as a last resort. If solder joints are used, ensure joints are well isolated from movement as solder joints are prone to fracture.

When splicing 2 wires it is preferable to use a crimp splice – again if using a solder joint, ensure joint is limited in its range of possible movement as solder joints are prone to fracture. Always use heat-shrink sleeving to insulate wires.

The Haltech CAN Network

The Haltech CAN network allows for simple and effective expansion in ECU capability and functionality without having to go to the trouble of wiring in a whole new computer.

Expansion is made possible by the addition of multiple expansion devices that communicate to the main ECU via a Control Area Network (CAN).

Installation time and costs are kept to a minimum as all expansion devices are powered up from the main ECU via the pre-terminated connection cable that comes with each expansion device.

Simply connect the device directly to the 8 pin CAN connector on the rear of the ECU or connect using an optional Haltech CAN Hub (order as part # HT059990) if multiple expansion devices are required.

Each expansion device is pre-programmed with a unique ID code which allows it to be recognised on the network and work correctly first time every time.

For current available expansion devices please go to our website at www.haltech.com



Figure 15– Haltech ECU connected to a Racepak Dash

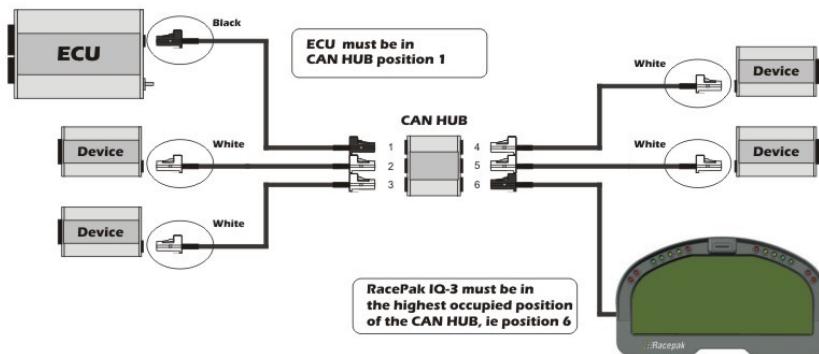
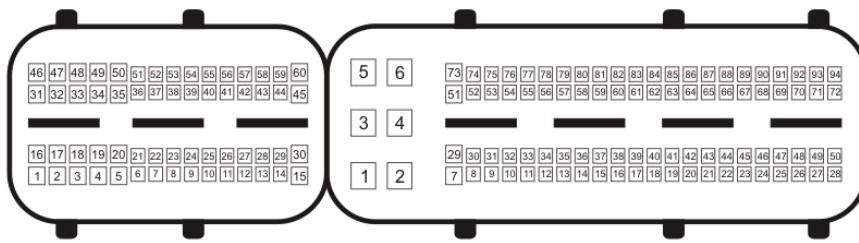


Figure 17 – Haltech ECU connected to 5 Auxiliary CAN based devices

ECU Pinout



A

B

Looking into ECU connector

A1	IGNITION OUTPUT #1
A2	IGNITION SHIELD GROUND
A3	-
A4	-
A5	-
A6	-
A7	-
A8	-
A9	-
A10	-
A11	-
A12	-
A13	-
A14	GENERATOR FR SIGNAL
A15	CRUISE CONTROL - GROUND
A16	IGNITION OUTPUT #3
A17	-
A18	-
A19	-
A20	-
A21	-
A22	-
A23	-
A24	-
A25	-
A26	-
A27	-
A28	-
A29	BRAKE LIGHT SWITCH
A30	CRUISE CONTROL - SIGNAL
A31	IGNITION OUTPUT #4
A32	-
A33	-
A34	-
A35	-
A36	-
A37	-
A38	-
A39	-
A40	-
A41	-
A42	BLOWER SWITCH INPUT (A/C)
A43	CRUISE CONTROL CLUTCH SWITCH
A44	BRAKE TEST SWITCH
A45	-
A46	IGNITION OUTPUT #2
A47	-
A48	-
A49	-
A50	-
A51	-
A52	-
A53	-
A54	-
A55	-
A56	-
A57	A/C SWITCH INPUT
A58	POWER STEERING SWITCH
A59	-
A60	-

B1	GROUND
B2	ON/START INPUT
B3	GROUND
B4	ECM +12V
B5	GROUND
B6	CONSTANT 12V
B7	-
B8	FUEL LEVEL SIGNAL #1 - MIDDLE
B9	FUEL LEVEL SIGNAL #1- TOTAL
B10	MANIFOLD PRESSURE SENSOR #2 SIGNAL
B11	MANIFOLD PRESSURE SENSOR #2 GROUND
B12	KNOCK SENSOR SIGNAL
B13	APP#2 SENSOR GROUND
B14	COOLANT SENSOR GROUND
B15	CAMSHAFT POSITION SIGNAL #2 (CMP2)
B16	O2 SENSOR (FRONT) GROUND
B17	CRANKSHAFT SENSOR (CKP)
B18	-
B19	-
B20	-
B21	AMBIENT TEMPERATURE SENSOR SIGNAL
B22	-
B23	-
B24	-
B25	INJ1 (No.1 Injector)
B26	INJ3 (No.3 Injector)
B27	INJ4 (No.4 Injector)
B28	INJ2 (No.2 Injector)
B29	-
B30	MANIFOLD PRESSURE SENSOR #1 POWER
B31	MANIFOLD PRESSURE SENSOR #1 SIGNAL
B32	TPS #2 SIGNAL
B33	COOLANT SENSOR SIGNAL
B34	KNOCK SENSOR GROUND
B35	APP#2 SIGNAL
B36	APP#2 SENSOR POWER
B37	CAMSHAFT SENSOR #2 GROUND
B38	O2 SENSOR (FRONT) SIGNAL
B39	CRANKSHAFT SENSOR GROUND
B40	VEHICLE SPEED SENSOR
B41	-
B42	-
B43	SENSOR POWER (REFRIGERANT, FUEL TANK PRESSURE & MAP SENSOR)
B44	AMBIENT TEMPERATURE SENSOR GROUND
B45	-
B46	-
B47	WASTEGATE CONTROL VALVE (WGV)
B48	RCV CONTROL SOLENOID VALVE
B49	-
B50	-
B51	ECM +12V
B52	RCV CONTROL SOLENOID VALVE
B53	INTAKE AIR TEMPERATURE SENSOR SIGNAL
B54	REFRIGERANT PRESSURE SENSOR SIGNAL
B55	-
B56	-
B57	REFRIGERANT PRESSURE SENSOR GROUND
B58	OIL TEMPERATURE SENSOR SIGNAL
B59	TPS SIGNAL GROUND
B60	APP#1 SENSOR POWER

B61	APP#1 SENSOR GROUND
B62	CAMSHAFT POSITION SIGNAL #1 (CMP1)
B63	TPS SENSOR POWER
B64	ENGINE CONTROL RELAY
B65	COOLING FAN LOW RELAY CONTROL
B66	OIL CONTROL VALVE #1 (CVV1)
B67	CANISTER PURGE SOLENOID VALVE (CPSV)
B68	OIL CONTROL VALVE #2 (CVV2)
B69	IMMOBILISER LIGHT
B70	FUEL PUMP RELAY OUTPUT
B71	ETC CONTROL OUTPUT #1
B72	ETC CONTROL OUTPUT #2
B73	FUEL TANK PRESSURE SENSOR SIGNAL
B74	MANIFOLD PRESSURE SENSOR GROUND
B75	IMMOBILISER DATA LINE
B76	-
B77	CAN - H
B78	CAN - L
B79	OIL TEMPERATURE SENSOR GROUND
B80	TPS1 SIGNAL
B81	-
B82	APP#1 SIGNAL
B83	CAMSHAFT SENSOR #1 GROUND
B84	O2 SENSOR (REAR) SIGNAL
B85	O2 SENSOR (REAR) GROUND
B86	TACHO OUTPUT
B87	A/C CLUTCH RELAY OUTPUT
B88	COOLING FAN HIGH RELAY CONTROL
B89	-
B90	-
B91	CANISTER CLOSE VALVE (CCV)
B92	CHECK ENGINE LIGHT (MIL)
B93	O2 SENSOR (FRONT) HEATER
B94	O2 SENSOR (REAR) HEATER

Figure 18 – Platinum Pro Plug-in Hyundai Genesis BK Theta

Notes

Haltech

ENGINE MANAGEMENT SYSTEMS



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www.haltech.com

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